












#### 4.6 ESTIMATED COSTS FOR DESIGN, INSTALLATION, AND ONGOING MAINTENANCE




The cost estimate is organized by sign wayfinding function and program recommendations incorporating the regional wayfinding signage guidelines (Task 4, Appendix A). As the extent of application per hub and agency in-house costs are unknown at this time, costs are presented on an average unit cost basis and use of design consultant and outside contractor for production, installation, and routine maintenance. Implementation is assumed to be during 2006. This cost estimate excludes cost for approvals, permits, etc., for signs within public right-of-way. The term “replace” would include the cost of removing an existing sign. The term “add” means a new sign as there is not a sign at this location.

Wayfinding Signage Program Recommendations	Design	Production/ Installation Unit Cost	Ongoing Maintenance	
<b>4.6.1 Signs Identifying Station or Transit Operator</b>				
 <p>San Rafael Transit Center Entrance</p>	Add transit center identification onto existing architecture.	Preparation of construction documents ranges from <b>\$6,000-10,000</b> per facility.	Cost varies per facility. Range of <b>\$12,000-16,000</b> per facility.	Not required unless sign is damaged.
 <p>Figure A-7.2 Proposed Embarcadero Station entrance identification</p>	Add freestanding station entrance identification sign for urban rail station.	Preparation of construction documents ranges from <b>\$4,000-6,000</b> per location.	Range of <b>\$6,000-8,000</b> , excluding electrical per location.	<b>\$800</b> annually for re-lamping or replacing ballasts for each location.


Wayfinding Signage Program Recommendations	Design	Production/ Installation Unit Cost	Ongoing Maintenance	
<b>4.6.2 Directional Signage for Moving around or Entering and Exiting the Station</b>				
 <p>Figure A-4.1 Proposed Embarcadero Station exit directions - use of logos to reinforce directions to services</p>	<p>Replace existing signage face panels with face panels that emphasize connections with features that improve functionality, i.e., color coding, agency logos, bolder arrows, etc.</p>	<p>Preparation of construction documents depends upon quantity and nature of sign. Range is <b>\$400-700</b> per sign.</p>	<p>Cost depends upon materials and construction of each sign and quantity. Range is <b>\$1,000-1,800</b> per sign.</p>	<p>Update information or repair sign. Cost varies. Range is <b>\$400-1,200</b> per sign.</p>
 <p>Figure A-4.2 - Proposed Exit Information</p>	<p>Add signage within stations or on-site to fill in directional gaps and link signage into a cohesive connections directional system.</p>	<p>Preparation of construction documents depends on quantity and nature of sign. Range is <b>\$600-800</b> per sign.</p>	<p>Cost depends upon materials and construction and conditions. Range is <b>\$1,500-1,900</b> per sign.</p>	<p>Update information or repair sign. Cost varies. Range is <b>\$400-1,000</b> per sign.</p>
 <p>Figure A-8.1 Proposed Urban Multi-Directional</p>	<p>Add urban multi-directional “connector locator” blade signs outside the station exits to provide on-street walking directions to nearby connection services</p>	<p>Preparation of construction documents depends upon quantity and conditions per location. Range is <b>\$1,000-1,500</b> per sign. Utilizing an off-the-shelf APCO “Sign Point” multi-directional sign system.</p>	<p>Cost depends upon number of blades and quantity of signs and mounting conditions. Range is <b>\$2,500-3,500</b> per sign.</p>	<p>Update blades or repair signs. Update blades is <b>\$400</b> each. Repair is <b>\$1,200</b> each.</p>

Wayfinding Signage Program Recommendations	Design	Production/ Installation Unit Cost	Ongoing Maintenance
<b>4.6.3 Signs Identifying where to Board or Wait for Transit</b>			
 <p><b>Figure A-10.2</b>                      San Rafael Bus Transfer Center (view from Platform B)                      Proposed bus boarding identification Northbound and Southbound                      Route 26 &amp; 27 board on different platforms</p>	<p>Add or replace bus or rail platform directional and identification signs that emphasize connections, i.e., platform/track identification, direction of travel, routes, etc.</p>	<p>Preparation of construction documents depends on quantity and nature of signs.                      Range is <b>\$400-700</b> per sign.</p>	<p>Cost depends upon materials and construction of each sign and quantity.                      Range is <b>\$1,500-1,800</b> per sign.</p>
 <p><b>Figure A-11.1</b>                      Proposed Diridon Station ID of DASH free shuttle service stop</p>	<p>Replace or add bus stop signs with signs that emphasize connections and improve legibility, accessibility, and functionality, i.e., bolder agency logos/colors, uniform layouts, current bus frequency, route line map, last bus listing, compliance with 2004 ADAAG Guidelines, etc.</p>	<p>Preparation of construction documents depends upon quantity and mounting conditions.                      Range is <b>\$800-900</b> for design of first sign.                      Range of <b>\$200-300</b> for each sign location thereafter.</p>	<p>Cost depends upon materials, quantity, and conditions at each location.                      Range is <b>\$150-200</b> per sign to replace panel.                      Range is <b>\$500-600</b> per sign to install post and panel.</p>
<b>4.6.4 Signs Providing Orientation to Surroundings beyond the Station</b>			
 <p><b>Figure A-11.2</b>                      Proposed Embarcadero Station Bus Boardin Locations</p>	<p>Add/replace area maps at large urban hub stations that emphasize connections and provide a simplified area map with destinations/transit agency/route listing, and nearby bus stops, extensive use of agency logos, walking time rings, and other features that create awareness and provide orientation to nearby bus boarding locations</p>	<p>For research, preparation of master art, and printing specifications and plots.  <b>\$9,500</b>/map for urban areas.  <b>\$5,500</b>/map for suburban areas.  <b>\$700</b> per update.</p>	<p>For computer generated map plot – inkjet process with UV protection laminate.                      Range is <b>\$600-900</b> per map, including installation by contractor.                      (Does not include frame.)</p>

Wayfinding Signage Program Recommendations	Design	Production/ Installation Unit Cost	Ongoing Maintenance
 <p>Ferry Terminal Informational Sign</p>	<p>Add agency logos to identify stations and major stops on existing urban visitor maps to create awareness of services, their stops, geographic relationship, and reinforce on-street identification signage.</p>	<p>Varies per map type and nature of master art.                      Range is <b>\$900-1,500</b> per map.</p>	<p>For computer generated map – inkjet.                      Range is <b>\$500-800</b> per map, including installation.</p> <p>Update every six months.                      Range is <b>\$500-800</b> per map, including installation.</p>
 <p>Matrix to be designed.</p>	<p>Add destination locator matrix signs at large hub stations that provide a comprehensive alphabet-types destination listing similar to destination-to-destination mileage charts on highway maps where the destinations intersect the matrix the transit services connecting the two are located.</p>	<p>For research, preparation of master art and printing specifications, and plots.  <b>\$6,500</b> per matrix for urban areas.  <b>\$5,500</b> per matrix for suburban areas.</p>	<p>For computer generated inkjet plot with UV laminate protection.                      The range is <b>\$600-900</b> per matrix, including installation plus <b>\$2,200</b> for new frame.</p> <p>Update every six months.                      Range is <b>\$600-900</b> per matrix, including installation.</p>
 <p>San Rafael Maps and Schedules</p>	<p>Organize existing maps, schedules, and fare information at stations to be more focused upon localized transit connection service stops within a reasonable walking distance.</p>	<p>For research and development of graphic layouts and new materials.                      The range is <b>\$4,500-6,500</b> for urban hubs.                      The range is <b>\$3,500-5,500</b> for suburban hubs.</p>	<p>Printing of new materials and reorganization of information within existing displays.                      The range is <b>\$1,500-2,000</b> per station.</p> <p>Update every six months of printed materials/                      replacement of faded materials.                      Range is <b>\$500-800</b> per station.</p>

Wayfinding Signage Program Recommendations	Design	Production/ Installation Unit Cost	Ongoing Maintenance
	<p>Add/update freestanding kiosk display panels to provide better information on how to use the services, schedules, fares, and making connections.</p>	<p>For research and development of kiosk panel configuration. The range is <b>\$3,500-4,500</b> for urban hubs. The range is <b>\$2,500-3,500</b> for suburban hubs.</p>	<p>Printing of new display posters and other graphic materials and reconfigure kiosk panels. The range is <b>\$5,000-6,000</b> per kiosk.</p> <p>Update every six months of posters and other graphic materials. The range is <b>\$300-500</b> per kiosk.</p>
<b>4.6.5 Real-time Transit Signs</b>			
 <p>Figure A-13.1 Proposed Diridon Rail Station directions to platform</p>	<p>Add real-time signage at multi-agency transit facilities to indicate service agency, destination of train (or bus) level of service, and actual or countdown (if feasible) departure time.</p>	<p>For planning, design, engineering and specifications, and testing. The range is <b>\$10,000-12,000</b> for the first sign and <b>\$4,000</b> per sign thereafter.</p>	<p>For production/ interface with system control and testing. The range is <b>\$18,000</b> per sign, excluding electrical/ communications service to sign.</p> <p>For technical support, contract budget <b>2 percent of capitol cost</b> for first five years of operation.</p>
 <p>Figure A-13.2 Proposed Dublin/Pleasanton BART Station Real Time train information at entry lobby</p>	<p>Replace real-time signage at single agency rail stations, or add outside paid area, indicating next train(s)' destination and departure time in countdown mode using amber LED technology for maximum legibility under all lighting conditions.</p>	<p>For planning, design coordination, engineering specifications, and testing. The range is <b>\$10,000-12,000</b> for first sign and <b>\$2,500</b> per sign thereafter.</p>	<p>For production, replacement of existing signs, software interface, and testing. The range is <b>\$25,000</b> per sign, excluding any additional electrical and communications service required.</p> <p>For technical support, contract budget <b>2 percent of capitol cost</b> for first five years of operation.</p>



Wayfinding Signage Program Recommendations	Design	Production/ Installation Unit Cost	Ongoing Maintenance
<p><b>4.6.6 Printed Mapping for Pre-trip Planning</b></p>  <p>Produce new MTC system map/visitor's guide that disseminates comprehensive regional transit information for all agencies and modes. The major hub connection points should be emphasized. This map would enable customers to determine the combination of services required to reach their destination and where the transfer points are located. The Chicago Regional Transportation Authority, MTC's counterpart, publishes an excellent regional transit printed map indicating Metra, CTA, and PACE regional and city commuter rail, rapid rail, city and suburban bus routes and major transfer points. The map would be regional on one side with a downtown enlargement on the other side. Versions of the map could be posted in frames at key hub stations replacing the collection (somewhat disorganized) of regional connections individual maps.</p>	<p>For research, development of base mapping, text graphic design, master art, and printing specifications, including coordination and reviews by MTC and each agency. The range is <b>\$35,000-40,000</b> as the initial investment.</p>	<p>For a 32" x 32" folded printed map, four-color process, budget <b>\$60,000</b> for 50,000 maps or <b>\$70,000</b> for 100,000 maps. For a 44" x 44" computer generated version for stations, budget <b>\$900</b> for each map with unique "Your Are Here" indicator. Add <b>\$2,500</b> if a new map frame is required.</p>	<p>Updates every six months. The range is <b>\$700-900</b>, including installation.</p>